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INTERNATIONAL SEMINAR ON PROBLEMS OF POLYTECHNICAL EDUCATION

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## FOREWORD

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INTERNATIONAL SEMINAR ON PROBLEMS OF  
POLYTECHNICAL EDUCATION

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Following is the translation of an unsigned article in  
Shkola i Proizvodstvo (School and Industry), Vol. V,  
No. 2, Moscow, 1961, pages 7-8.

From 12 to 21 December 1960 the First International Seminar on Problems of Polytechnical Education and the Relation Between School and Living was held in Moscow.

Educators in the Soviet Union and other socialist countries have long expressed the need for such a seminar.

This idea was conceived at the First State Conference on Polytechnical Education, held in Bratislava (Czechoslovakia) November 1957, which was attended by representatives of the Soviet Union.

Taking part in the seminar were 23 delegates from ten socialist nations, 43 delegates from 14 republics of the USSR, and 51 delegates from the RSFSR. In addition, during the ten days that the seminar was in session, 1595 persons, including teachers and administrators, scientists, and representatives of the public institutions in Moscow and Moscow Oblast, were present at the meetings.

A total of 37 reports were read at the plenary and sectional meetings, of which 17 were by delegates from the socialist countries, ten were by delegates of the Soviet republics (excluding the RSFSR), and ten were by delegates of the RSFSR, including scientists representing the Academy of Pedagogical Sciences. Moreover, 41 persons took part in the discussion of the reports.

The seminar was conducted in an atmosphere of complete mutual understanding, extensive and freely-given exchange of opinion, and a clearly demonstrated unity in the principal views of all the seminar participants in the discussion of the problems of polytechnical education and the relation between school and life on the outside. This would certainly seem to ensure a continued success in the formation of our new school system in all of the socialist countries.

Throughout all of the papers devoted to the general problems of organizing the new school -- by Comrades I. A. Kairov and A. G. Kalshnikov (RSFSR), Ts'ui Tsung-yuan (Chinese People's Republic), Comrade G. Neuner (GDR), V. Hendriks (Czechoslovakia), I. Pavlov (Bulgaria), Tihany Ferenc (Hungary), Kemal Mandy (Albania), N. Tsevege (Mongolia),

Pham Kuang Hieu (Viet-Nam) -- the pervading notion was that the only proper approach to the establishment of the new schools and the teaching methods contained therein would be through a realization of the Marxist-Leninist principle of a progressive unification between education and industry.

The seminar demonstrated, furthermore, that in the various countries of the socialist camp and even in different regions of the same country there is a great diversity in the organization, content, forms, and methods of putting polytechnical education and the everyday significance of school into effect. This is undoubtedly in keeping with the differences in historical, economical, and social conditions, as well as in the cultural traditions that typify the life of any given socialist country.

The seminar participants were of one accord in expressing the opinion also that new secondary school, which simultaneously gives a general polytechnical and professional education and thus differs from the usual liberal education and professional institutions that have existed until now, successfully solves the problem of fostering thoroughly educated men and women, who are equally well acquainted with scientific principles and the systematic effort underlying a specific profession or specialization.

At the plenary and sectional meetings of the seminar great attention was devoted to the problems of polytechnical education. In all of the papers and discussions presented by the seminar participants it was stressed that prior to the reorganization of the school system the idea of polytechnical education was in the nature of an abstraction, pedagogical theory and educational practice being considered a "pure" polytechnical education, which was divorced from vocational training and professional preparation of the students. Now, however, as work applications become an everincreasing part of the life of our schools, as our classes begin to incorporate professional training on the basis of combined class-work and work training in industry, polytechnical education departs further and further from the abstract notion and is transformed into a concept that is specific, actual, and organically related to vocation and industry, and the new school is becoming in reality -- no longer in words but in substance -- a truly work-oriented polytechnical school system.

It was also emphasized at the seminar that the realization of polytechnical education promotes the elimination of the narrow craftsman in industrial training, thus raising him to an unprecedented higher level in comparison with the training provided heretofore in the usual professional institutions.

At the same time, those participating in the seminar examined and discussed the very important problem of realizing the polytechnical principle in the study of scientific fundamentals. In reports dealing with this question Comrades A. G. Kalashnikov (RSFSR) and V. Hendriks (Czechoslovakia) and in remarks made by seminar participants, it was noted that many schools in all of the socialist countries have made considerable achievements in handling the problems of polytechnical

education in the study of the natural sciences. It was pointed out, on the other hand that the existing programs on these subjects, as well as the method for teaching them require urgent reformation.

The programs for teaching natural sciences can be improved by two routes.

1. The programs for physics, chemistry, and biology include only examples of the application of natural science in industry and coincide very closely with the programs and curricula for general technological subjects (mechanical and electrical engineering, etc.) taken individually.

2. The programs for natural science include a certain amount of general technological subjects, i.e., in the physics programs, mechanical and electrical engineering materials are introduced, in the chemistry program chemical engineering and the application of chemistry to agriculture are introduced, in the biology program materials are offered on the biological principles of agriculture.

The seminar participants heard with great interest reports by Comrade Z. A. Gerasimova (RSFSR) on vocational teaching in the lower classes, by Comrade Eugen Blidean (Rumania) on vocational training in grades V-VII of the agricultural schools in Rumania, by Comrade L. N. Epifanov (Latvian SSR) on the content of practical applications in grades V-VIII in the schools of the Latvian SSR, by Comrade Antoni Taton (Poland) on professional counseling for students. The proposals made by these comrades and the discussion of their papers underlined the principal bases and specific approaches to a work-oriented polytechnical education.

It is only natural that the subject of predominant interest at the seminar should be the realization of vocational training of students in the advanced classes of the secondary school in industrial concerns and in agriculture. In view of the importance of these issues and the necessity for their deep and exhaustive discussion, the seminar was divided into two sections: one on vocational training in industrial concerns and another on vocational training in agriculture.

At the first section stimulating reports were presented by Comrades Fred Postler (GDR), I. Pavlov (Bulgaria), A. A. Vasil'yev (Academy of Pedagogical Sciences of the RSFSR), R. Yu. Yesenzholova (Kazakh SSR), P. K. Chokaya (Moldavian SSR), N. N. Chistyakov (Stalinsk, RSFSR).

These reports and the lively discussions following them, mostly theoretical in nature, showed that the best form of industrial training of students in the higher classes of the secondary school on the premises of industrial concerns is through the organization of student guilds. At the same time, with the new school system in its present stage it would be unrealistic to negate the value of the individual effort or the organization of academic-vocational workshops in the school. It was also stressed in the reports and discussions that in any case professional training should be realized in the upper classes on the basis of close coordination between the professional training and liberal and polytechnical education of young people, it being understood that this coordination can and ought to work both ways. As a rule, the study of scientific principles, the introduction of the students to those

scientific laws of behavior lying at the foundation of industrial processes should precede professional training. The same is just as true of the reverse process, when the knowledge, ability, and experience of the upperclassmen during their industrial training is reinforced by a deeper scientific groundwork in the study of the natural and mathematical sciences.

Also stimulating and fertile was the proceedings of the section on industrial training of upper class students in the secondary schools in agriculture. At this section rapt attention and great interest were accorded papers by Comrades Mieczeslaw Penczerski (Poland), S. Ianev (Bulgaria), Kh. K. Karimov (Tadzhik SSR), F. D. Lesik (Ukranian SSR), N. V. Rakhmanov (Stavropol'skiy Kray, RSFSR), A. I. Shabordina (Ryazanskaya Oblast', RSFSR), S. V. Shchukin (Academy of Pedagogical Sciences, RSFSR).

Those giving reports and participating in the ensuing discussions emphasized the need for and the validity of a diversified form of industrial education in the agricultural professions. It was stressed unanimously that, no matter what the form of industrial training decided upon, it is imperative that the curricula and specializations according to which the pupils are to be educated be broad in concept. Moreover, in education considerable attention should be focused upon the problems of the mechanization and electrification of agriculture.

Also the center of attention at the seminar was the problem of the educational value of work-oriented polytechnical and industrial education. In interesting reports by Comrades D. A. Dzhavakhiy (Georgian SSR), V. D. Kazaryan (Armenian SSR), G. S. Openchik (Belorussian SSR), V. N. Terskiy (RSFSR) and in discussions by the seminar participants it was conclusively demonstrated that in many schools even now the educational program has incorporated a modern, concrete, and functional content, at the basis of which lies the work activity of the children and young people, and that many schools are with increasing success solving the problem of polytechnical and practical education of the coming generation as socially useful and productive workers, teaching them to work in the communist tradition.

As the final stage in the business of the seminar the problems of training teachers in the precepts of a polytechnical education and production training in the liberal educational schools were considered, along with the problems of the content and methodology of scientific research in this area. On the first problem papers were heard by Troian Pop (Rumaina) and A. I. Markushevich (Associate Minister of Education of the RSFSR), on the second problem by M. N. Skatkin (Academy of Pedagogical Sciences, RSFSR).

The papers presented and their discussion by the seminar participants demonstrated just how acute and pressing the indicated problems are. In the course of exchanging opinions many interesting proposals were brought forth, ideas which undoubtedly should aid the ministries of education of all the socialist countries in finding more effective approaches to the preparation and enhanced qualifications of teachers oriented toward polytechnical education and industrial training, as well as the organization and realization of scientific research in this area.

These then are some of the conclusions, all too brief and far from complete as they are, which may be made regarding the First International Seminar on Problems of Polytechnical Education and the Relation Between School and Living.

Looking at the positive side of the present seminar, it must be said that this is but the initial rough beginning of the combined effort of pedagogues to resolve the enormous conceptual problems of building the new school system. This is why we must in every way welcome the unified opinion voiced by the representatives of the socialist countries, that this seminar should represent the inception of continued, regularly convened meetings.